

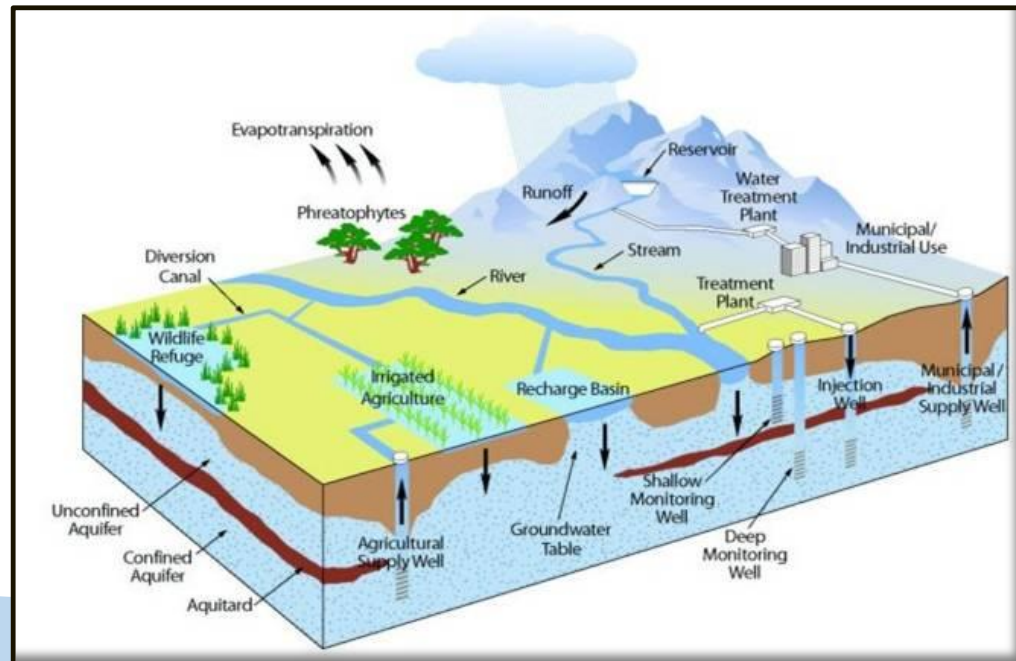
# Sustainable Groundwater Management in California

CA Department of Water Resources



# ***Presentation Overview:***

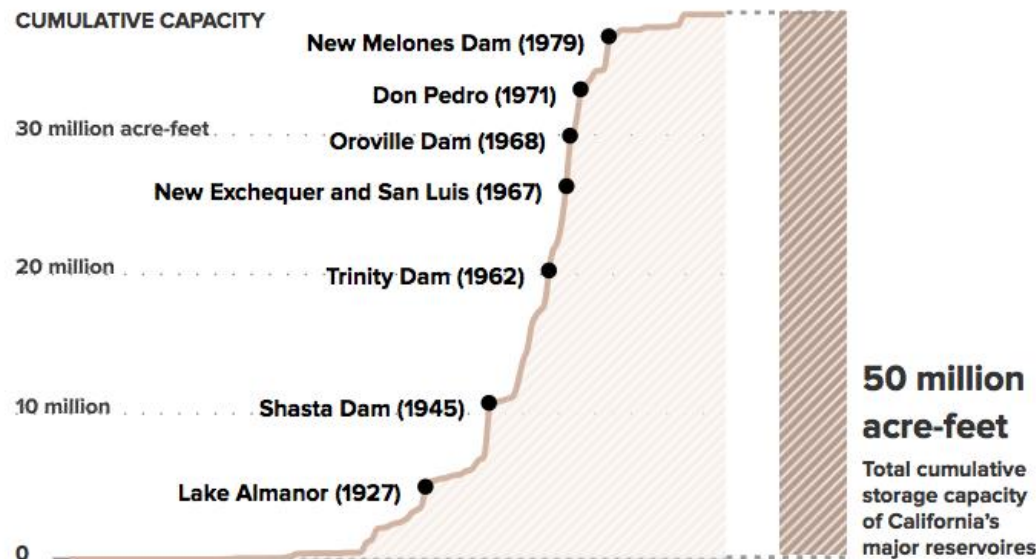
- **Why is Groundwater Important**
- **Achieving Sustainable Groundwater Management**
- **Tribal Participation in SGMA**
- **Technical and Financial Assistance**



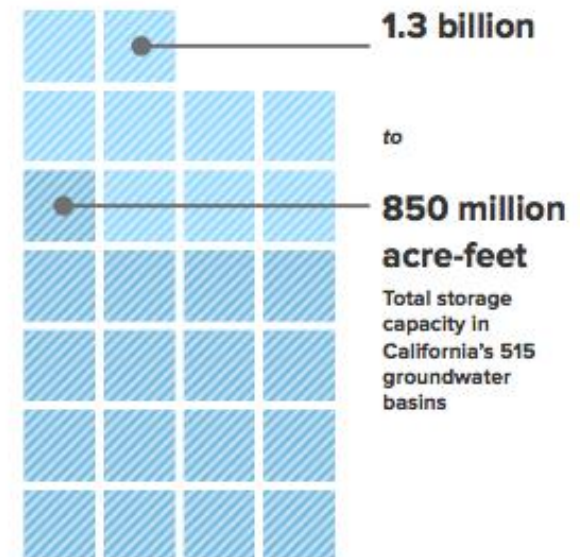
# Why is Groundwater Important

- The state's groundwater storage capacity is more than 10 times that of all surface reservoirs.
- 85% of Californians depend on groundwater for at least part of their drinking water.
- About 5 million acres of farmland in California are irrigated with Groundwater – more in drought years.

## Reservoir Capacity



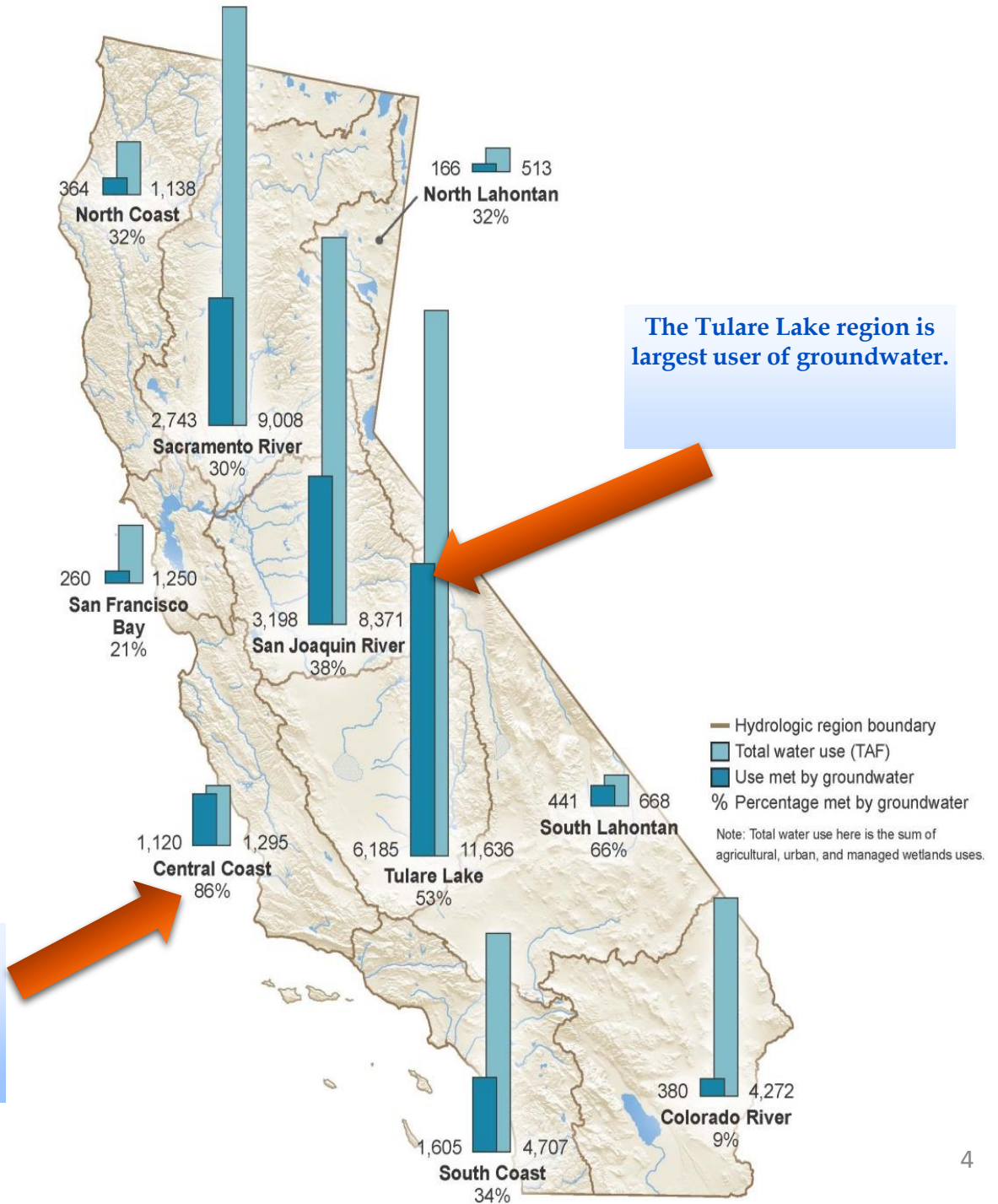
## Groundwater Basin Capacity



# Ground-water Supply in California

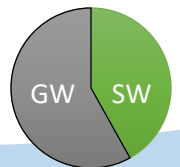
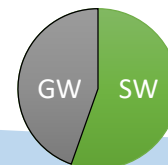
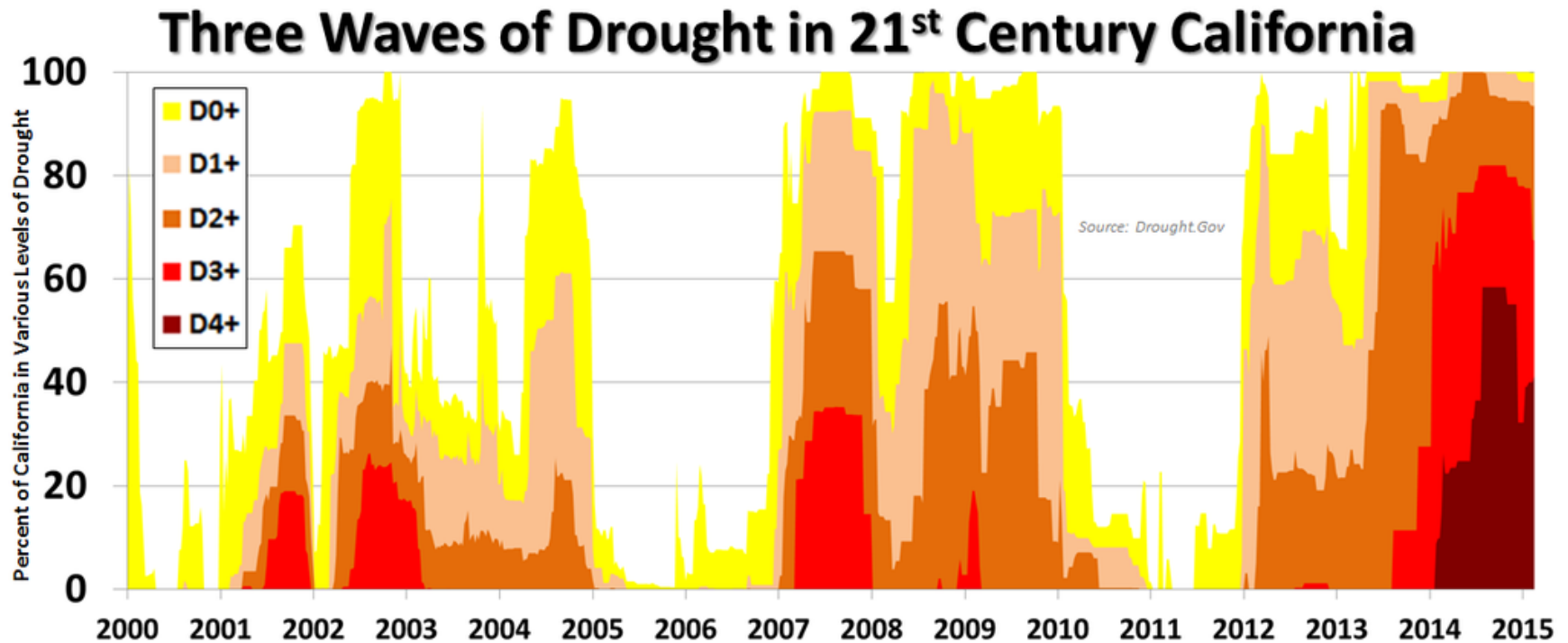
2005-10  
Average

The Central Coast region is the most groundwater dependent.



# Why is Groundwater Important

- Groundwater is the State's savings account that is used during droughts and regulatory restrictions



# Sustainable Groundwater Management Act of 2014



## Framework

- Applicability
- Definitions

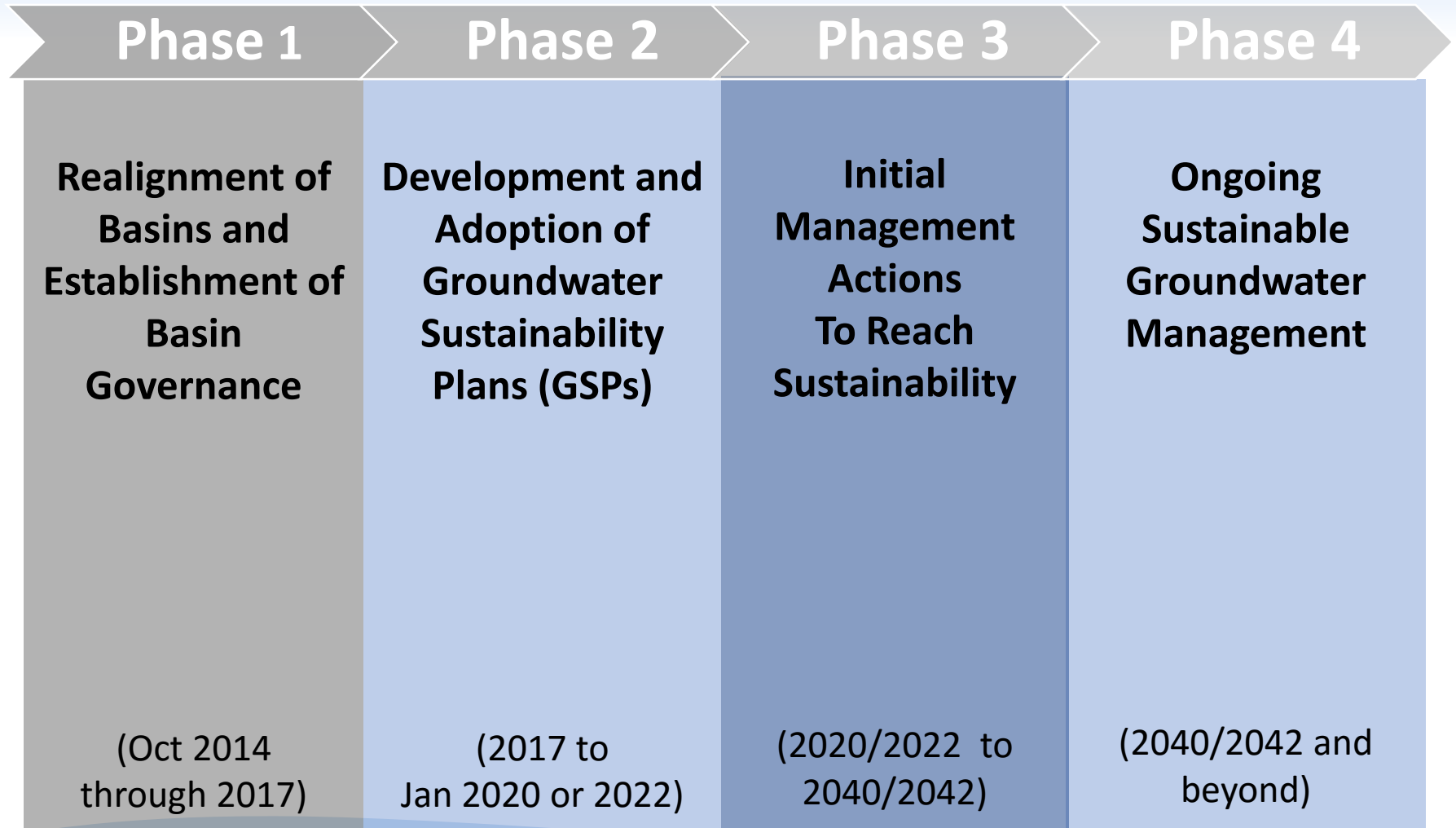
## Local's Role

- Establish GSA
- Powers & Authorities
- Sustainability Plans
- Deadlines

## State's Role

- Develop guidance or rules
- Provide Technical and Planning Assistance
- State Evaluation and Assessment
- State Intervention

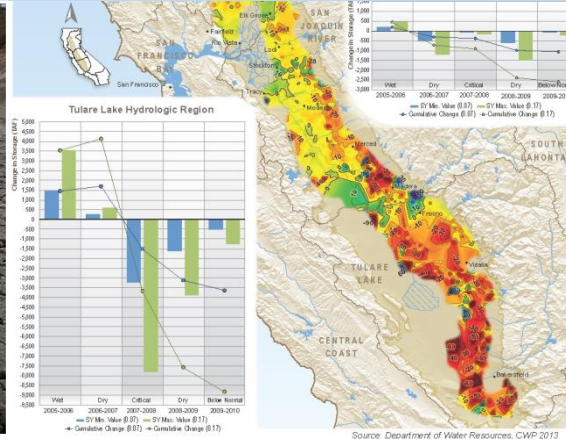
# Phases to Achieve Sustainable Groundwater Management



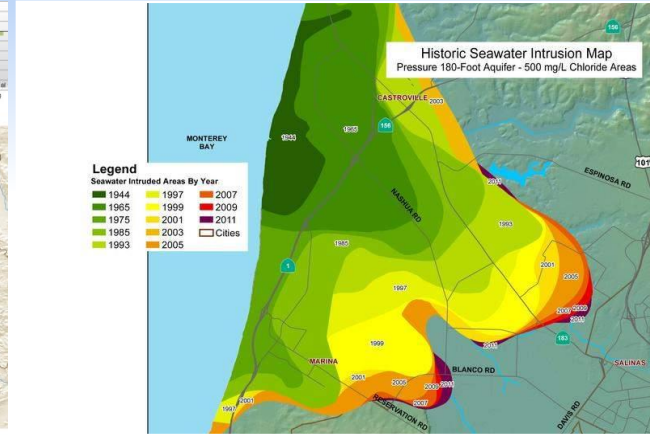
# Undesirable Results



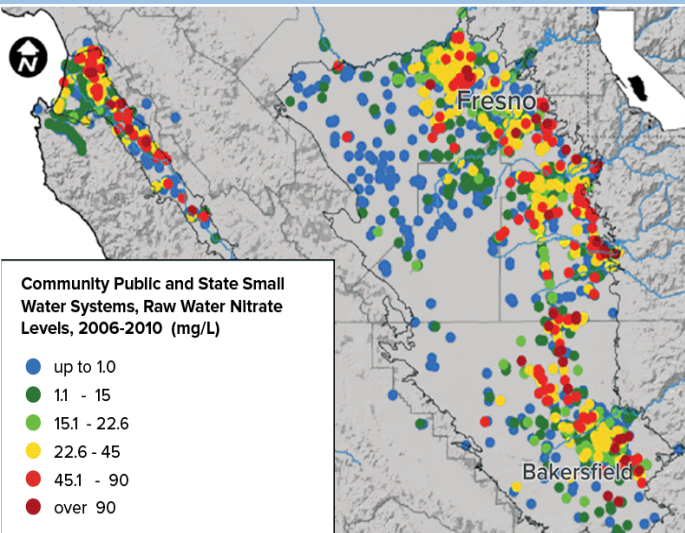
**Lowering of GW Levels**



**Reduction  
of GW Storage**



**Seawater Intrusion**



**Water Quality Degradation**



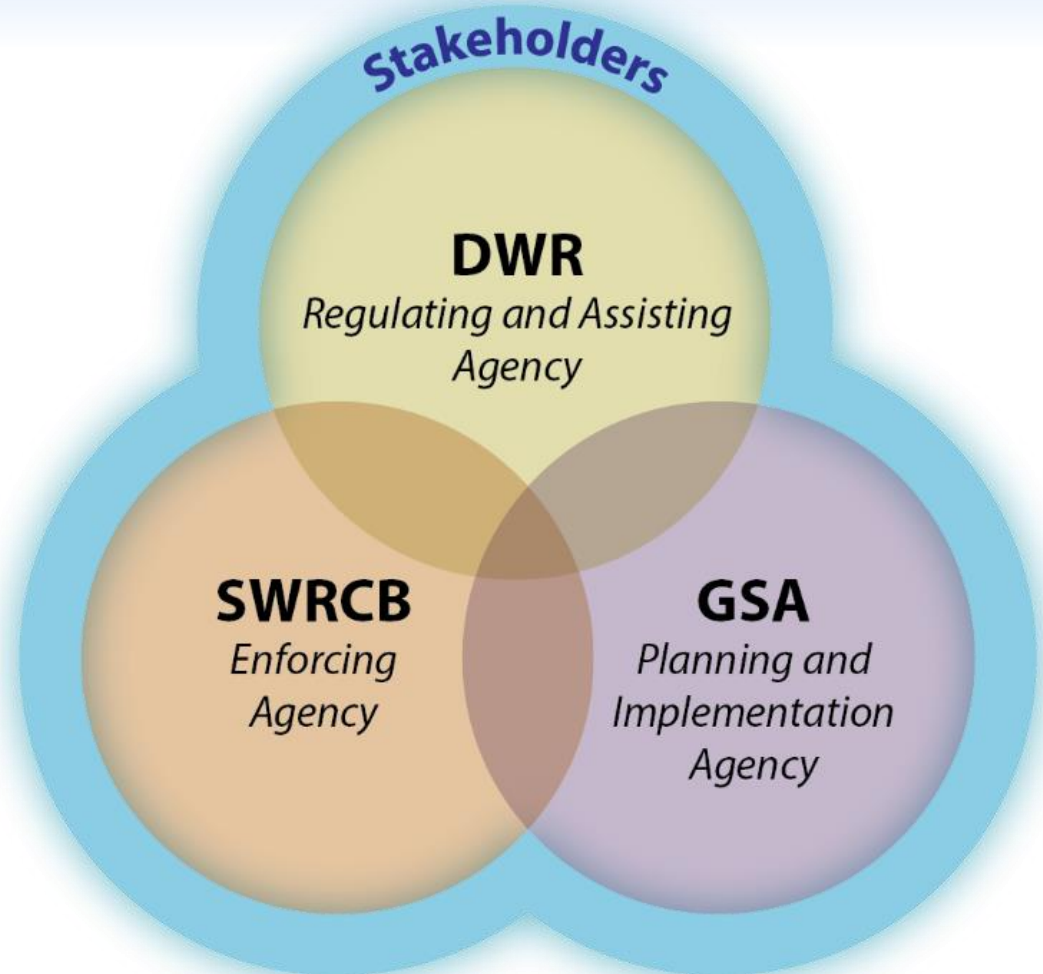
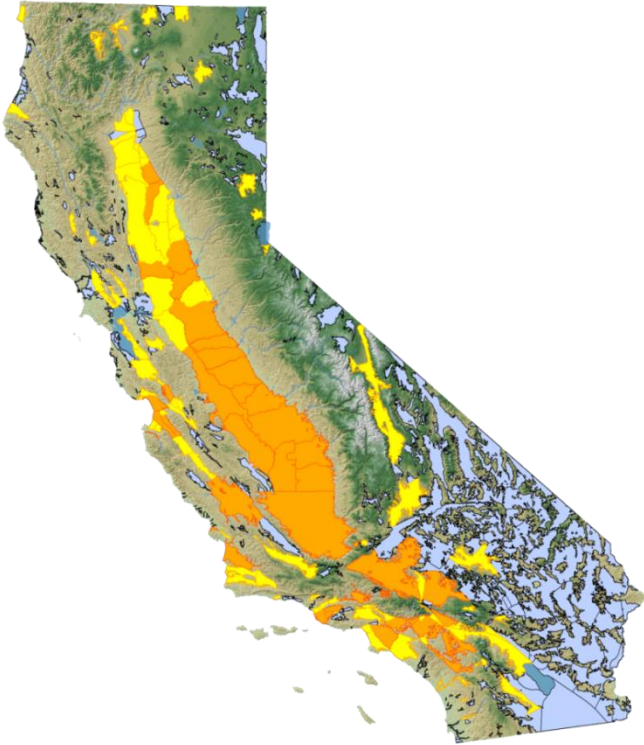
**Land Subsidence**



**Depletion of  
Interconnected Streams**

# Sustainable Groundwater Management General Roles and Responsibilities

**Groundwater Sustainability Plans  
Required for All High and Medium  
Priority Basins**



# SGMA Milestones for Success

## Groundwater Sustainability Agencies

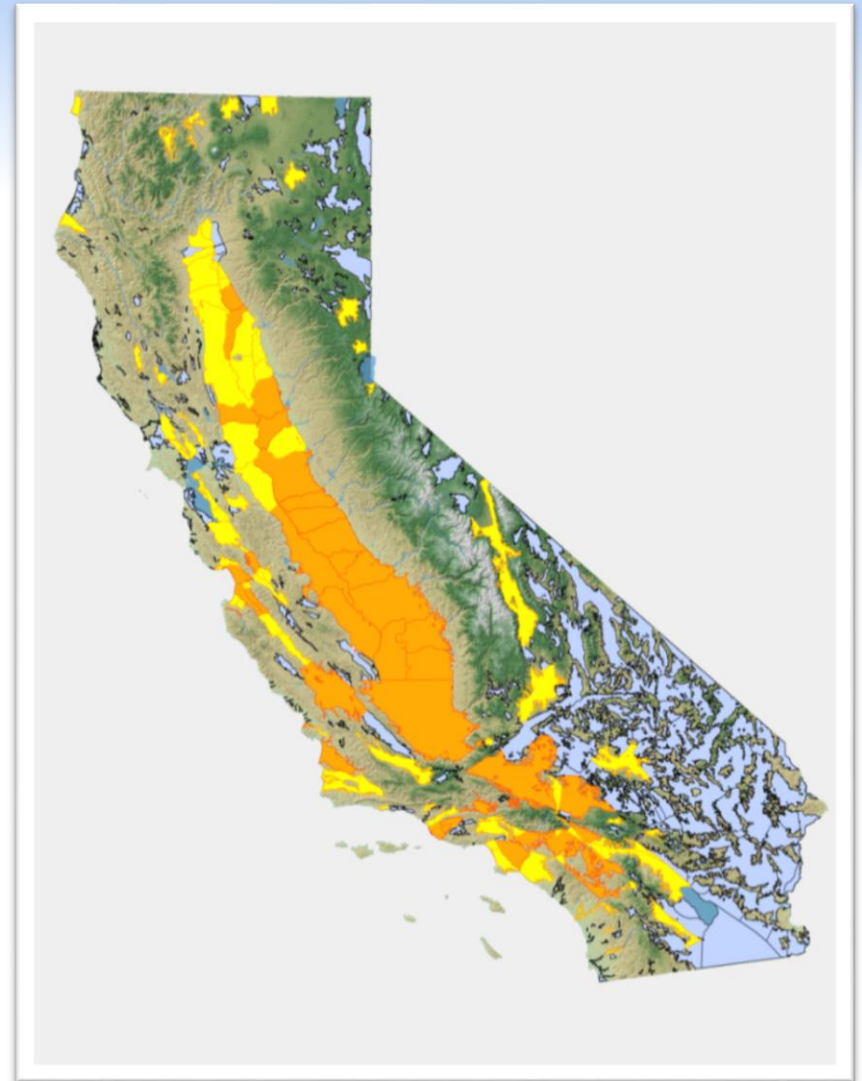
- Formation by June 30, 2017
- Local agencies can be GSAs

## Groundwater Sustainability Plans

- January 31, 2020 for critically overdrafted basins
- January 31, 2022 for all other high and medium priority basins
- Multiple GSPs in a basin must coordinate

## Groundwater Sustainability

- 20-year implementation period
- 50-year planning horizon

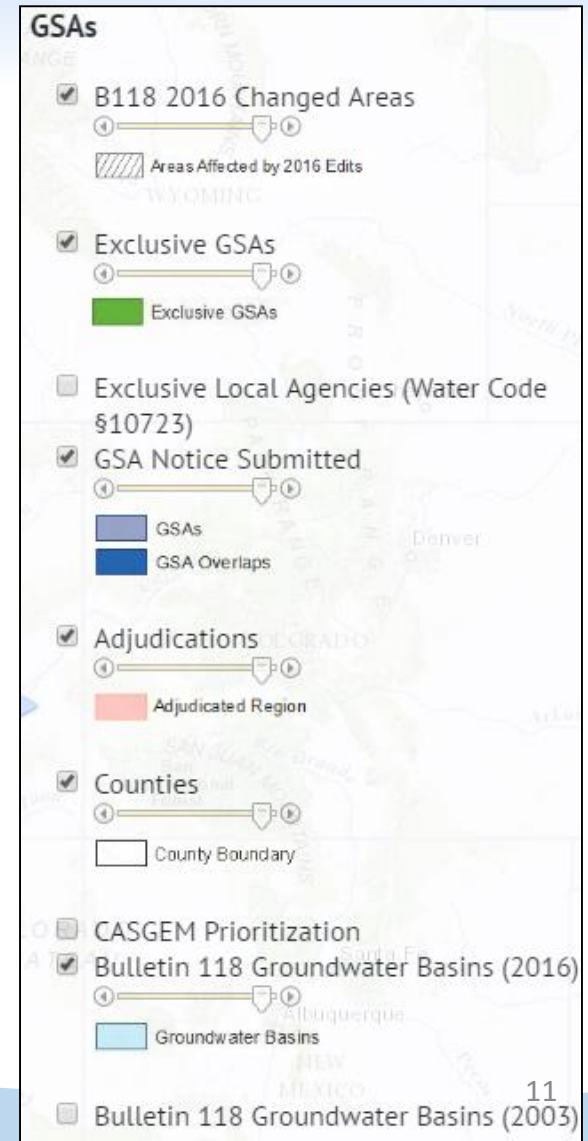


# Status of GSA Formation

[http://water.ca.gov/groundwater/sgm/gsa\\_map.cfm](http://water.ca.gov/groundwater/sgm/gsa_map.cfm)



Note: Not all posted GSA areas are shown on map. Updated 04/26/2017.





# Tribal Participation in SGMA

# TRIBAL PARTICIPATION IN GSP AND GMP

## Water Code §10720.3

- Federally recognized Tribes may participate through a Joint Powers Agreement or other agreement with local agencies in the basin.
- Participating Tribes are eligible to conduct planning, financing, and management under SGMA, including eligibility for grants and technical assistance.
- Exercise of regulatory authority, enforcement, or collection of fees needs to be pursuant to the Tribe's authority and not pursuant to the authority granted under SGMA.
- Federally reserved water rights to groundwater shall be respected in full.

# SUSTAINABLE GROUNDWATER MANAGEMENT PROGRAM - TRIBAL ADVISORY GROUP

## Northern California

- Scotts Valley Band of Pomo Indians
- Big Valley Band of Pomo Indians
- Redwood Valley
- Habematolel Pomo of Upper Lake
- Karuk Tribe
- Pit River Tribes
- Susanville Indian Rancheria
- Yurok Tribe

## Adjudicated Basin

- Bishop Paiute Tribe

## Central California

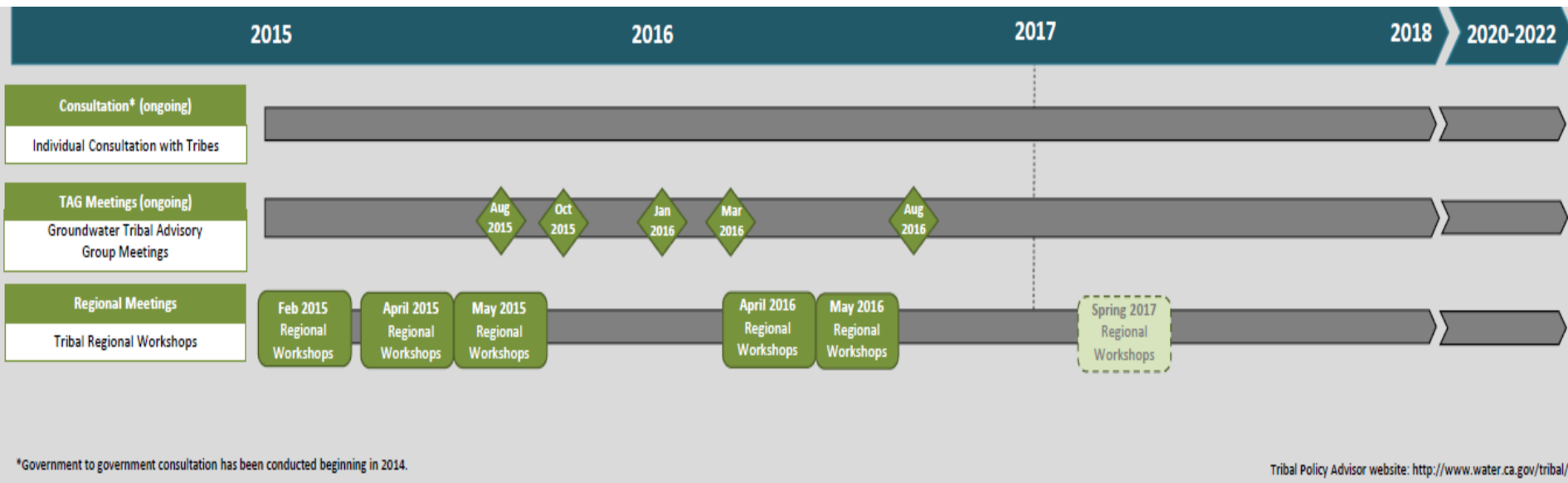
- Big Sandy Rancheria of Western Mono Indians
- Table Mountain Rancheria of California
- Santa Ynez Band of Chumash Indians
- Cortina Rancheria Band of Wintun Indians of California
- Colusa Indian Community
- Estom Yumeka Maidu Tribe of the Enterprise Rancheria
- Coyote Valley Band of Pomo Indians
- Tule River Indian Tribe
- Tuolumne Band of Me-Wuk Indians

## Southern California

- Morongo Band of Mission Indians
- Rincon Band of Luiseno Indians
- Barona Band of Mission Indians
- Chemehuevi Indian Tribe

# GROUNDWATER LEGISLATION TIMELINE

## DWR TRIBAL ENGAGEMENT



### LEGEND

- DWR Action
- SWRCB Action
- Tribal Engagement Action
- SGMA Milestone
- Public Meeting/Workshop
- Tribal Meeting/Workshop

- Meeting To Be Determined
- ◆ Tribal Advisory Group Meeting

- GSA Groundwater Sustainability Agency
- GSP Groundwater Sustainability Plan
- BB Basin Boundary
- BMPs Best Management Practices

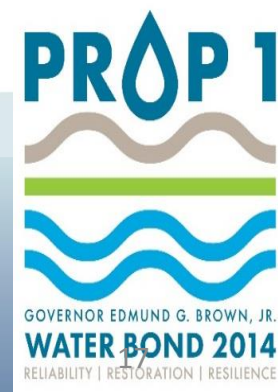
# SGMA IMPLEMENTATION ISSUES IDENTIFIED BY TRIBAL OUTREACH

- ☐ Does the Sustainable Groundwater Management Act apply to federally recognized Tribes?
- ☐ Does SGMA apply to non-federally recognized Tribes?
- ☐ What is a joint powers authority (JPA)?
- ☐ Can a Tribe choose to be a Groundwater Sustainability Agency \* (GSA) or exercise the powers of a GSA using the authorities provided by SGMA?
- ☐ Does SGMA affect tribal water rights?
- ☐ What opportunities are there for tribal governments to provide input during SGMA implementation?
- ☐ Do local authorities have an understanding of what is “Tribal Law”
- ☐ Do local authorities have an understanding of what is “Tribal Land”

**\*Tribes are exempt from creating a groundwater sustainability agency (GSA) but are encouraged to participate in local management and creating their own groundwater sustainability plans.**



# Technical and Financial Assistance

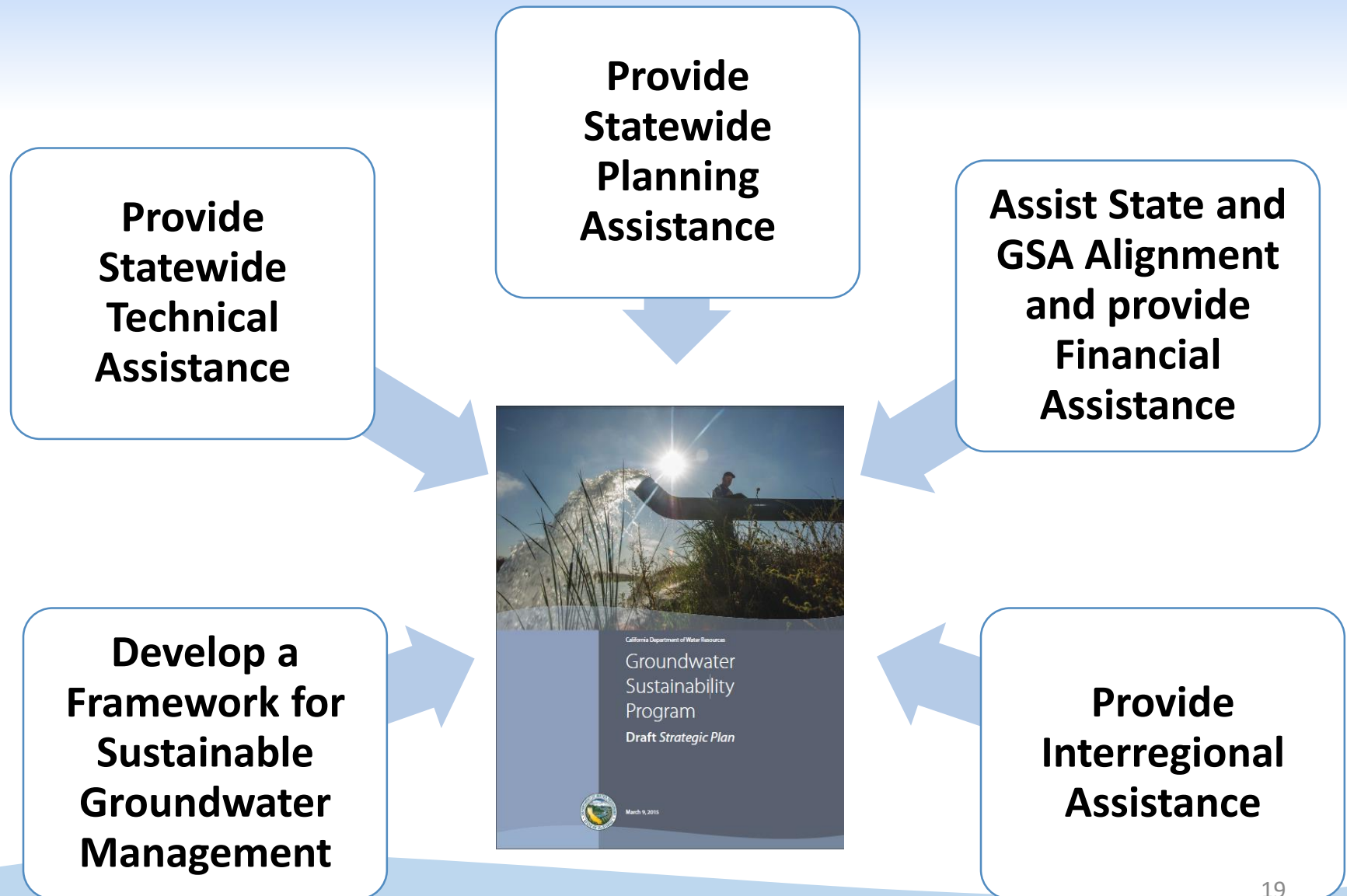


Most groundwater basins today lack sufficient data and analytical tools to fully evaluate SGMA undesirable results

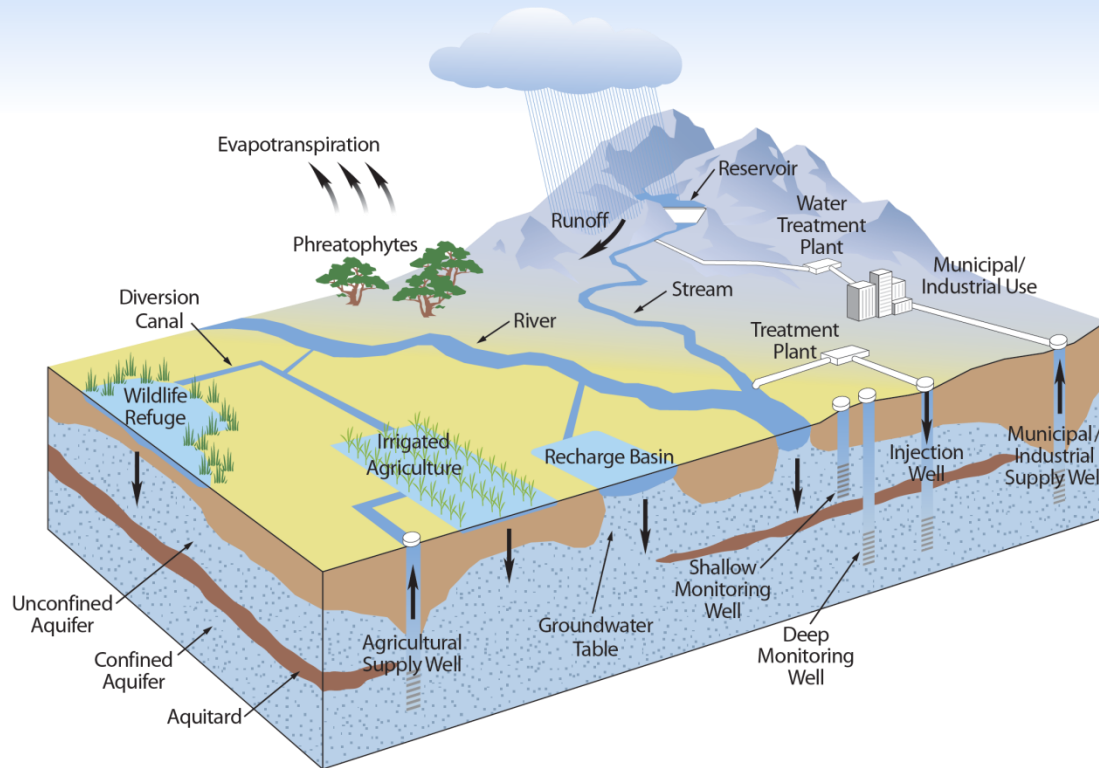


GSAs will require up to 20 years to complete a monitoring network and management options to sustainably manage groundwater

# DWR's Sustainable Groundwater Management Program



# Strategic Vision and Framework for Data and Tools



Comprehensive water budgets and water reliability maps support integrated water management

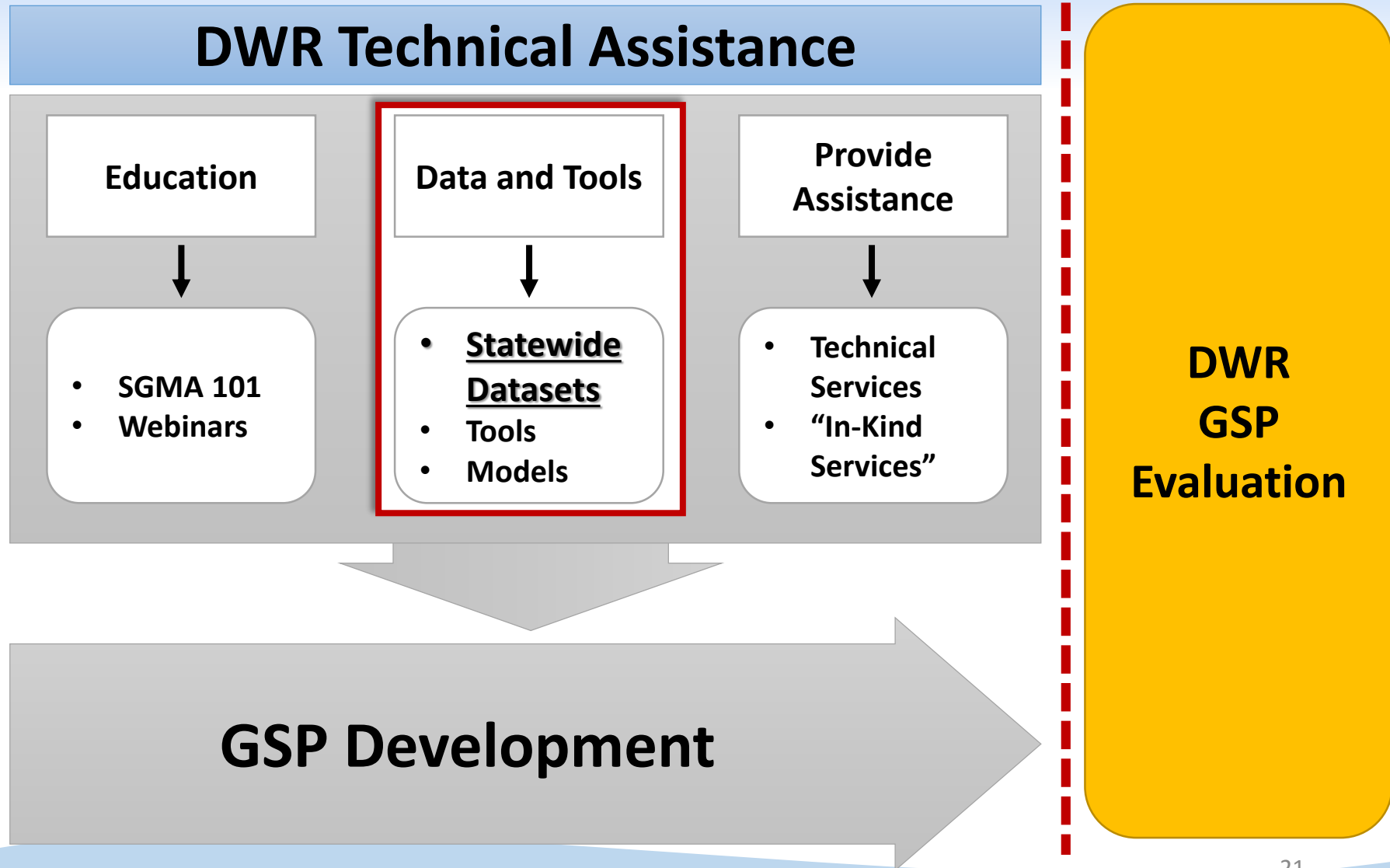
**Data Exchange**  
*by DWR*

**Data Collection**  
*by DWR*

**Data Reporting**  
*by local agencies*  
(e.g. CASGEM, SGMA, UWMP)

**Enterprise Data Management**  
*by DWR*

# Proposed SGMA Technical Assistance



# BMPs and Guidance Documents

## Best Management Practices (BMPs)

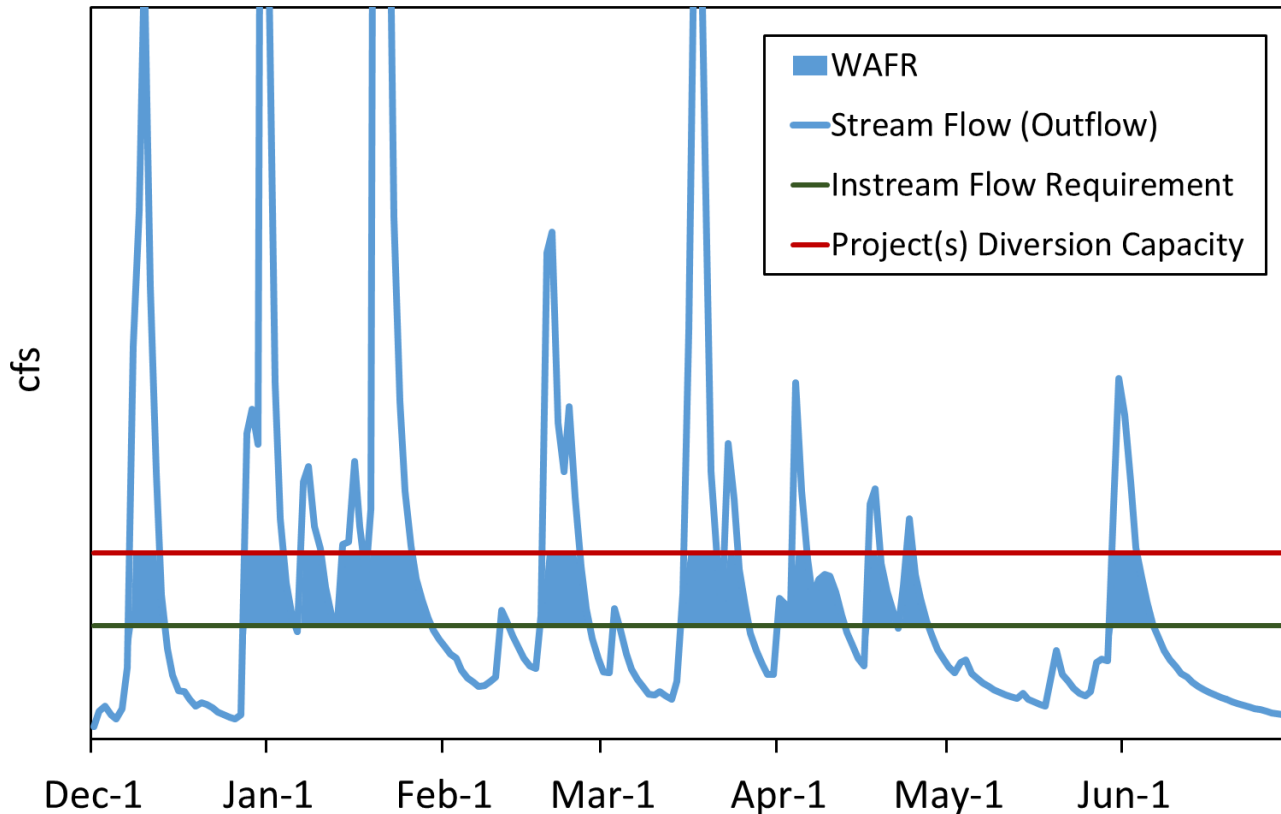
- BMP 1: Monitoring Protocols, Standards, and Sites
- BMP 2: Monitoring Networks and Identification of Data Gaps
- BMP 3: Hydrogeologic Conceptual Model
- BMP 4: Water Budget
- BMP 5: Modeling

## Guidance Documents

- Preparation Checklist for GSP Submittal
- GSP Annotated Outline
- Engagement with Tribal Governments
- Establishing Sustainable Management Criteria
- Stakeholder Engagement and Communication

# Water Available for Groundwater Replenishment

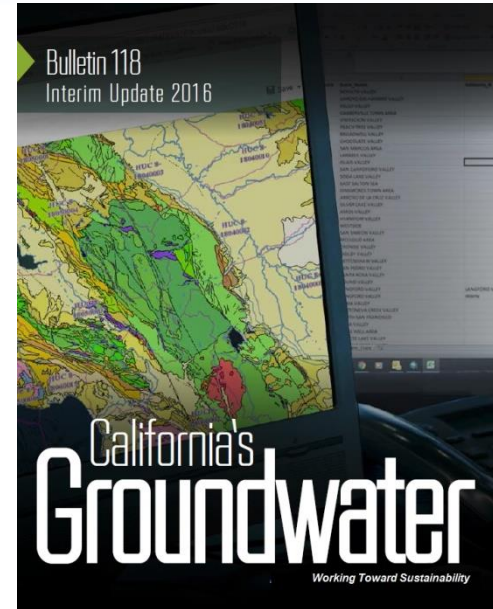
## Simple Hydrograph

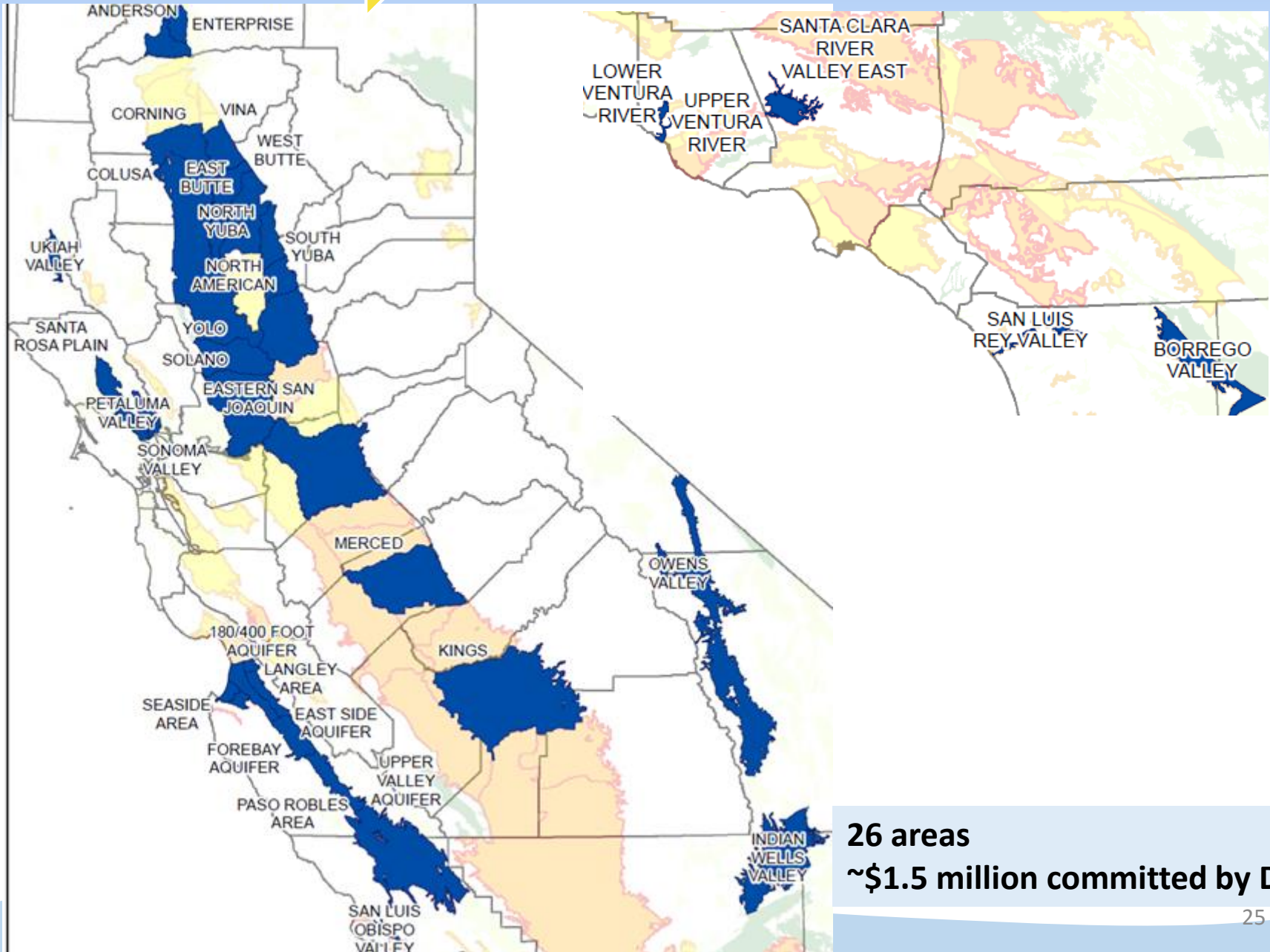


# Bulletin 118 – Interim Update 2016

## Contents:

- Forward by DWR Director Mark Cowin
- Introduction
- Critically Overdrafted Basins
- Basin Boundary Revisions
- Basin Prioritization (2017 amendment)
- B-118 Next Steps (Comprehensive Update 2020)





26 areas

~\$1.5 million committed by DWR

# Proposition 1 Overview

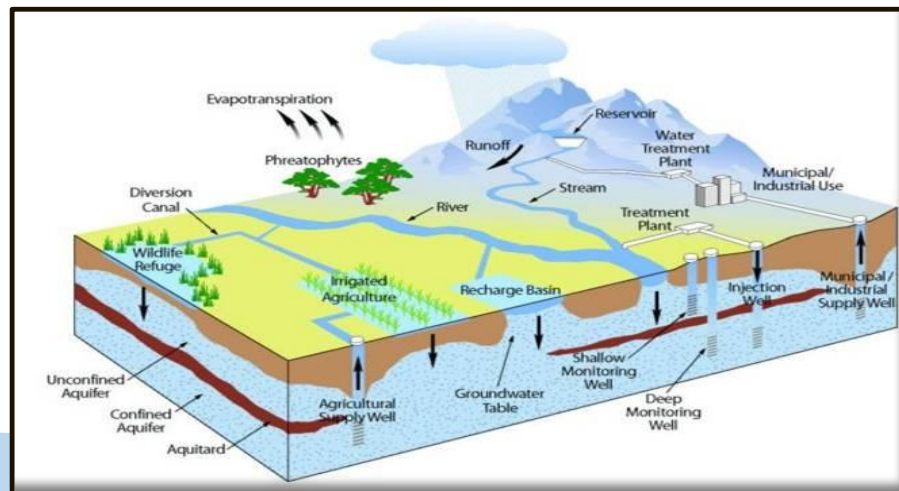
## Administered by DWR

- **Chapter 7            Regional Water Reliability**
  - \$510M    Integrated Regional Water Management
  - \$100M    Water conservation & water use efficiency
- **Chapter 9            Water Recycling**
  - \$100M    Desalination & advanced treatment technology
- **Chapter 10          Groundwater Sustainability**
  - \$100M    Groundwater Planning
- **Chapter 11          Flood Management**
  - Administered by DWR and the Central Valley Flood Protection Board
  - \$295M    Reduce risk of levee failure & flooding in the Delta
  - \$100M    Statewide flood management

# Next Steps

## DWR's Upcoming Program Implementation

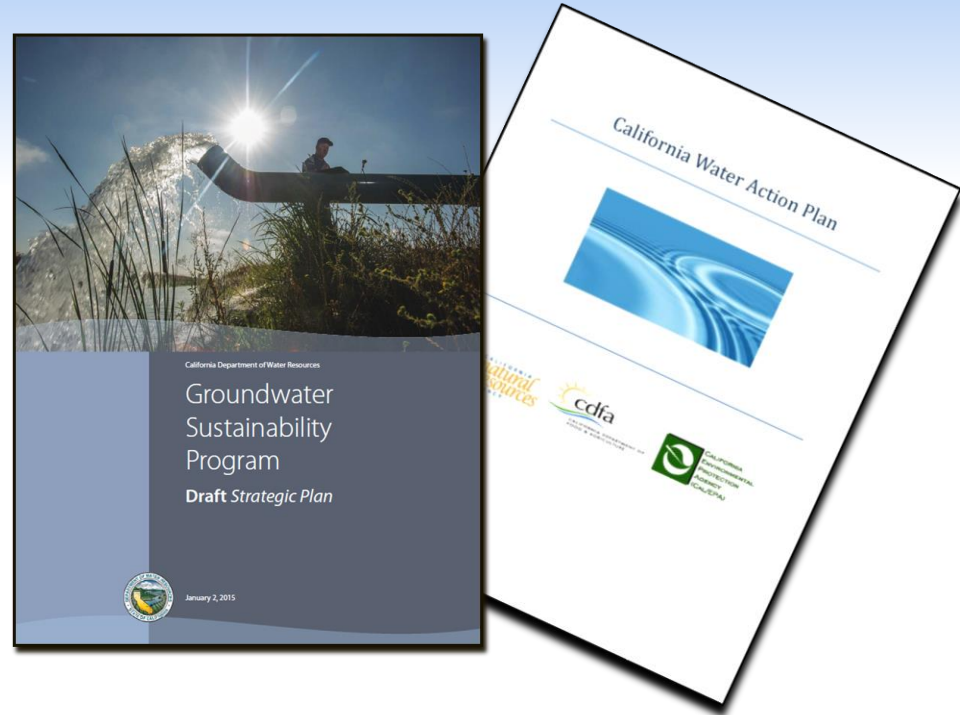
- Develop BMPs
- Update Bulletin 118
- Proposition 1 Funding PSPs
- GSA Technical Support
- Data Management Framework
- Regional Water Budget Support
- Update Well Standards



# Questions

*When properly managed, groundwater resources will help protect communities, farms, and the environment against the impacts of prolonged dry periods and climate change.*

California Water Action Plan 2014



DWR: <http://www.water.ca.gov/groundwater/>

SWRCB: [http://www.waterboards.ca.gov/water\\_issues/programs/gmp/](http://www.waterboards.ca.gov/water_issues/programs/gmp/)